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CORRES. CONTROL
OUTGOING LTR NO.

93 RF 5261

EG&G ROCKY FLATS

DIST.	LTR	ENC
BENEDETTI, R.L.	X	
BENJAMIN, A.		
BERMAN, H.S.		
BRANCH, D.B.		
CARNIVAL, G.J.		
COPP, R.D.		
DAVIS, J.G.		
ERRERA, D.W.		
HANNI, B.J.		
HARMAN, L. K.		
HEALY, T.J.		
HEDAHL, T.		
HILBIG, J.G.		
KIRBY, W.A.		
KUESTER, A.W.		
LEE, E.M.		
MANN, H.P.	X	
MARX, G.E.		
McDONALD, M.M.		
McKENNA, F.G.		
MONTROSE, J.K.		
MORGAN, R.V.		
POTTER, G.L.		
PIZZUTO, V.M.		
RILEY, J.H.		
SANDLIN, N.B.		
SHEPLER, R.L.		
STEWART, D.L.		
SULLIVAN, M.T.		
SWANSON, E.R.		
WILKINSON, R.B.	X	
WILLIAMS, S. (ORC)		
WILSON, J. M.		
ZANE, J. O.		
Anderson, K.D.	X	X
[redacted]		
Anderson, S.C.	X	X
Brooks, M.	X	X
Broussard, M.C.	X	
Busby, W.	X	X
Burlione, W.G.	X	X
Johnston, L.	X	
Muller, P	X	X
CORRES CONTROL	X	X
ADMIN RECORD		
TRAFFIC		

CLASSIFICATION:

UCNI	X	X
UNCLASSIFIED		
CONFIDENTIAL		
SECRET		

AUTHORIZED CLASSIFIER SIGNATURE

DATE 5/18/93

IN REPLY TO RFP CC NO: 0034 6004-RF-93

ACTION ITEM STATUS
☐ OPEN ☒ CLOSED
☐ PARTIAL

LTR APPROVALS:
MCB:MD
ORIG & TYPIST INITIALS
KDA:lA

EG&G ROCKY FLATS, INC.
ROCKY FLATS PLANT, P.O. BOX 464, GOLDEN, COLORADO 80402-0464 • (303) 966-7000

May 5, 1993 93-RF-5261

R. J. Schassburger, Deputy Director
Environmental Restoration Division
DOE, RFO

ESTABLISH RISK BASED ACTION THRESHOLDS FOR RADIONUCLIDE CONTAMINATION IN SOILS - RLB-194-93

Ref: R. L. Benedetti ltr, RLB-0781-92, to R. M. Nelson, Response to DOE/RFO Memorandum Regarding Radiological Characterization and Posting, December 22, 1992

This letter provides supplemental information concerning the referenced correspondence, Item 2: Establish risk based action thresholds for radionuclide contamination in soils.

EG&G has previously discussed with members of your staff initiatives taken to develop soil action guidelines based upon requirements identified in Department of Energy (DOE) 5400.5, Radiation Protection for the Public and the Environment, 1989. The methodology followed a two step approach of 1) establishing soil guidelines, and 2) establishing authorized limits for the unrestricted release of soil. The objective of this correspondence is to propose unrestricted release limits for soil containing detectable levels of Plutonium-239 (^{239}Pu), Americium-241 (^{241}Am), and Uranium constituents.

The DOE Office of Environmental Restoration and Waste Management has imposed a moratorium on the offsite shipment of hazardous waste potentially contaminated with radioactivity. This in turn led to the issuance of the Performance Objective for the Verification of NonRadioactive Hazardous Waste, October 16, 1991. The Performance Objective defines radioactive waste as any material exhibiting a measurable increase in radioactivity above background in volume or bulk resulting from DOE operations. EG&G is unable to guarantee that detected radioactive nuclides, in particular ^{239}Pu and ^{241}Am, are not the result of such activities. This has severely constricted the release of bulk materials, such as soils, not originating from Individual Hazardous Substance Sites (IHSS).

The Performance Objective also requires that the Generator demonstrate through "risk-based standards and associated implementing procedures, that the property may be utilized, treated, or disposed of by any party without concern for radioactive content." This is also required by DOE 5400.5. Risk based soil guidelines have been derived according to DOE/CH-8901, A Manual for Implementing Residual Radioactive Material Guidelines. The RESRAD computer program was used to perform the risk assessment.

ADMIN RECORD

DOCUMENT CLASSIFICATION REVIEW WAIVER PER CLASSIFICATION OFFICE

A-SW-000781

Following the recommendations of the code, a residential, family farm scenario was applied to all pathways. The risk assessment is based upon a limiting dose of 100 mrem/year. A mixture of radionuclides in soil as reported in the Operable Unit 1 Phase III Remedial Investigation Feasibility Study Draft Report, October 1992, was used. In total, the conservative quality of the code insures the application of the As Low As Reasonable Achievable (ALARA) philosophy to the public and the environment. The resultant proposed derived soil guidelines for unrestricted release are 33 pCi/gm for ^{241}Am and 230 pCi/gm for ^{239}Pu. Attachment 1 contains a complete report of the findings. Values for Uranium constituents are also presented in Attachment 1.

The proposed guidelines will be utilized to release soils with detectable concentrations of ^{239}Pu and ^{241}Am below the concentration listed. They will also be used in the determination of Radioactive Material Management Areas (RMMAs) for waste classification purposes.

EG&G is requesting concurrence to the application of the proposed soil guidelines by June 4, 1993. If no response is received, EG&G will begin the process of incorporating the guidelines as authorized limits for the unrestricted release of soils. The limits will be implemented in appropriate procedures and waste programs.

If you have any questions regarding this letter and attachment, please contact K. D. Anderson of my staff at extension 6979.

R. L. Benedetti
Associate General Manager
Environmental Restoration Management
EG&G Rocky Flats, Inc.

KDA:la

Orig. and 1 cc - R. J. Schassburger

Attachment:
As Stated